

WHAT IS CLAIMED IS:

1. A method for converting input data representing a color formed from only two primary colors to output data representing a color in a full color space, comprising the steps of:

receiving the two-color input data in the form of two colors, a primary color and a secondary color;

mapping each color of the two-color input data to an equivalent color defined in the full color space by applying a first mapping function to each color of the two-color input data;

determining, from the two-color input data, a rendering characteristic for each of the primary color and the secondary color;

based upon the rendering characteristics, and the primary and secondary colors, representing a combination of the primary and secondary colors, and the associated rendering characteristics, as an intermediate output; and

processing the intermediate output using a second function to generate the output data representing a single color defined in the full color space.

2. The method of claim 1, wherein the first function is user-defined.

3. The method of claim 2, wherein the user-defined function is a user-defined map from a highlight-color space to full-color space.

4. The method of claim 1, wherein the step of representing a combination of the primary and secondary colors, and the associated rendering characteristics, as an intermediate output includes converting the secondary color into an HSV representation and applying the percentage of highlight to the HSV representation.

5. The method of claim 4, wherein the step of processing the intermediate output using a second function to generate the output data representing a single

color defined in the full color space, includes applying a percentage black to the intermediate value and then converting the intermediate value to a full-color representation using a programmatic function.

5 6. A method for converting input data representing a color formed from only two primary colors to output data representing a color formed from at least three colors, comprising the steps of:

 receiving the two-color input data in the form of two colors, a primary color and a secondary color;

10 determining, for each color of the two-color input data, an equivalent color defined in a full color space by applying a first function to each color of the two-color input data;

 determining, from the two-color input data, a screen characteristic for the primary color and the secondary color;

15 determining which screen characteristic is of a lesser value, and then determining if the lesser value is equal to zero;

 if the lesser value screen characteristic is zero, generating an intermediate output that is a function of only one of the primary and secondary colors, otherwise, generating an intermediate output that is a function of both the primary and
20 secondary colors, wherein the intermediate outputs include a highlight color, a highlight color percentage and a black percentage; and

 processing the intermediate output using a second function to generate the output data representing a single color defined in at least three color space.

7. The method of claim 6, wherein the step of generating an intermediate output that is a function of only one of the primary and secondary colors, comprises:
determining if the primary color is black; and

if the primary color is black, setting the highlight color to white, setting the
5 highlight color percentage to 100% and setting the black percentage equal to the
greater of the two screen characteristics, otherwise .

setting the highlight color to the primary color and setting the highlight color
percentage equal to the greater of the two screen characteristics, and setting the
black percentage to 0%.

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8. The method of claim 7, wherein the screen characteristics are percentage
values associated with the screens for the respective colors.

9. The method of claim 6, wherein the step of generating an intermediate
15 output that is a function of both the primary and secondary colors, comprises:

determining if the primary color is black; and

if the primary color is black, setting the highlight color to the secondary color
and setting the highlight color percentage equal to the lesser of the two screen
characteristics and setting the black percentage equal to the greater of the two
20 screen characteristics, otherwise

setting the highlight color to the primary color and the highlight color
percentage equal to the greater of the two screen characteristics, and setting the
black percentage equal to the lesser of the two screen characteristics.

25 10. The method of claim 9, wherein the screen characteristics are
percentage values associated with the screens for the respective colors.

11. The method of claim 6, wherein the screen characteristic is a percentage
value.

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12. The method of claim 6, wherein the step of receiving the two-color input data comprises locating the color data in an ink catalog and retrieving the data therefrom.

5 13. The method of claim 6, wherein the first function is user-defined.

14. The method of claim 6, wherein the output data representing a single color defined in at least three color space is represented in the nature of an extensible markup language schema.

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15. A method of instructing a printing system which prints using at least three colorants to print a predetermined color defined using only a first and second color, comprising the steps of:

creating a schema to represent said first and second colors, said palette
 15 including, palette names and colorant names, for generating different colors;
 using a processor, determining, for each color of the two-color input data, an equivalent color defined in a full color space by applying a first function to each color of the two-color input data;
 determining, from the two-color input data, a screen characteristic for the
 20 primary color and the secondary color;
 determining which screen characteristic is of a lesser value, and then determining if the lesser value is equal to zero;
 if the lesser screen characteristic is zero, generating an intermediate output that is a function of only one of the primary and secondary colors, otherwise,
 25 generating an intermediate output that is a function of both the primary and secondary colors, wherein the intermediate outputs include a highlight color, a highlight color percentage and a black percentage; and
 processing the intermediate output using a second function to generate the output data representing a single color defined in at least three color space and
 30 storing said output data in a schema.

16. The method of claim 15, wherein said schema is represented in an extensible markup language.

5 17. The method of claim 15, wherein the schema includes a color catalog which itself includes a plurality of palettes.

18. The method of claim 17, wherein the palettes include colors defined in terms of a standard color model.

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19. The method of claim 18, wherein the standard color model is sRGB.